

thesia should be as brief as possible, and as small an amount of ether of the very best quality used. All preparation of the patient is carried out before the anæsthetic is administered, and this greatly decreases the amount of ether used. The sponges used in the abdominal cavity are dry, except those which are utilized to hold the intestines aside, which are wet. He observes the strictest asepsis and as little manipulation as possible.

PAYR, of Graz, in order to confirm anatomically the transmission of infection from the peritoneal to the thoracic cavity, injected colored fluid into the central tendon of the diaphragm of dogs. After eighteen minutes some of them were killed. The carmine used was found in the lymphatics as high as the level of the bronchi. Seven minutes later it was found in the blood of the carotid artery.—*Proceedings of the German Surgical Congress, 1905.*

**VII. Postoperative Prolapse of the Abdominal Viscera.**  
By PROFESSOR MADELUNG (Strasburg). Very little reference to this in the text-books. Madelung collected 144 cases from the literature, and added 13 from his own and the practice of his colleagues. May follow laparotomy at any age or sex, and any in which even a simple exploratory laparotomy has been performed, as well as follow cases where large tumors have been extirpated. It follows especially incision in the lower half of the abdomen. It is not exclusively confined to incisions in the median line, but may happen after operation in which the incision has been made through the rectus, or even lateral to it. So far as Madelung could ascertain, it had never followed an operation upon the bile passages. He has observed it several times after enterostomy. It is especially likely to follow in cases where several laparotomies have been performed upon the same patient. The critical days are the eighth and ninth after the operation. He has collected 18 cases in which a laparotomy scar has given way. In one case five months, and in another even twelve years

after the laparotomy. The formation of a hernia did not precede this condition in every case. When a hernia was present, it seldom exceeded in size a fist or an apple. The results in these 18 cases was favorable, in spite of the eventration. The separation in the abdominal muscles is not always in the line of incision, but may be in its immediate vicinity. Almost every organ, excluding the pancreas and liver, has taken part in the prolapse. Escape of nine or ten feet of small or large intestine is not unusual, and even though they remain outside of the abdominal cavity for some time, they did not become inflamed. There is only a report of one case of mild symptoms of obstruction.

Undoubtedly the choice of suture material plays a rôle. Several cases occurred after the use of small-sized catgut, but observation of a large amount of material showed that it may happen with non-absorbable suture material. It has happened more frequently after suture of the abdominal wall layer by layer than through and through. Surgeons in whose cases such a prolapse occurred stated that their suture by layers was carried out in the most careful manner.

In some cases the prolapse occurred through too early removal of the sutures. In a still larger number it occurred several days after their removal or while they were still *in situ*. The question has arisen whether the use of drainage favors prolapse of the viscera, but from Madelung's statistics this is not borne out. Extreme thickness of the abdominal wall, and, on the other hand, very thin walls were described as the cause in several cases.

Postoperative hæmorrhage between the layers of the abdominal wound has only been referred to once as the cause. Infection apparently does not predispose to this condition, as it occurred in a number of cases where the wound healed in a perfectly aseptic manner. Prolapse only rarely occurs after laparotomy for peritoneal tuberculosis, even though fistulæ form. Any sudden increase in the intra-abdominal tension, such as ascites, pregnancy, and tympanites, favor it. In 51 cases a severe cough was

given as the cause of the prolapse. In 21 cases vomiting was blamed for the prolapse. Getting up too early from bed, or leaving the hospital too early; straining at stool, or restlessness have caused it in a number of cases.

The general conditions which have an influence are weakened conditions following myomatous hæmorrhages, fever, syphilis, and carcinoma. Madelung found that postoperative peritonitis was given as the cause in only six cases.

Undoubtedly in every case several factors act together. Many cases show practically no subjective symptoms, such as pain; some patients have their attention first called to the condition on account of feeling wet around the abdominal wall, or because the intestines extended down as far as the thighs. There may be no general disturbance present at all, so that the surgeon's attention is at times not called to the condition until some hours, even days, after it occurs.

The ideal treatment is to replace all of the prolapsed viscera at once; but Madelung believes that the expectant treatment is the best, and that several cases pursued an unfavorable course because the manipulations were too extensive. There are cases where it is impossible to replace the viscera on account of adhesions. Madelung and others have, much to their surprise, seen spontaneous reduction in these cases, with gradual retraction of the viscera inside the abdominal cavity.

Peritonitis has seldom occurred in these cases, either as a result of the prolapse or of the manipulations. Strange to say, of 148 cases, 102 were reported as entirely cured. Such late ill-results as intestinal atony through adhesions or formations of hernia one scarcely notices in the reports. Forty-three patients died. Of these, 29 died as the result of the prolapse.—*Proceedings of the German Surgical Congress, 1905.*

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